



Position Paper on Data Centers

October 2026

Executive Summary of the Guardians of Martin County's Position on Construction and Operation of Data Centers in Martin County, Florida.

With the rapid rise of artificial intelligence (AI), companies across the country are racing to develop new data center projects. The opportunities associated with the data centers are incentivizing local and state governments with the promise of economic generation, job creation, and tax revenue. While data centers do create opportunities, they also present significant environmental and societal impacts that potentially threaten the integrity of the land and pose short-term and long-term risks for local communities.

The carbon footprint of data centers potentially threatens local, state, and national climate goals. Their construction and operation may also jeopardize threatened and endangered species, wildlife habitats, migration patterns, wetlands, and local ecosystems. Additionally, the quality of life for residents has the potential to be negatively affected. The continuous operation of cooling systems, backup generators, and other equipment contributes to noise and light pollution, which may negatively affect both residents and wildlife. Despite the economic benefits offered by the establishment of AI data centers, leaders and policymakers must be mindful of the long-term environmental and social costs associated with their development and operation. Balancing technological innovation with ethical resource management, community wellbeing, and ecosystem protection is critical to ensuring that the expansion of AI infrastructure is sustainable.

In southeast Florida, where the climate is sub-tropical, water is a precious commodity, and varied upland and wetland vegetative communities provide habitat for a diverse assemblage of threatened and endangered species, we are vulnerable to hurricanes, fires, and other natural disasters.

The Guardians of Martin County recognize the societal needs for data centers, and believe that, with proper engineering, design, construction, operation, and monitoring to identify the need for adaptive change, the owners of these facilities in Martin County have not only the ability, but also the responsibility to make every effort to minimize environmental impact, ensure proper monitoring and accountability, and endeavor to maintain positive relationships with local communities.

Table of Contents

Background on Artificial Intelligence (AI) Data Centers	1
Challenge #1 <i>Water Consumption</i>	1
Challenge #2 <i>Energy Consumption</i>	3
Challenge #3 <i>Excessive Carbon Footprint</i>	4
Challenge #4 <i>Noise Pollution</i>	5
Challenge #5 <i>Light Pollution</i>	7
Challenge #6 <i>Air Pollution</i>	8
Challenge #7 <i>Heat Pollution</i>	10
Challenge #8 <i>Ecological Impact</i>	12
Challenge #9 <i>Community Opposition</i>	13
Current Florida Legislature	15
Conclusion	16
References	17

Background on Artificial Intelligence (AI) Data Centers:

An AI data center is a facility that houses the specialized information technology (IT) infrastructure required to train, deploy, and deliver AI applications and services (Cisco, 2026). These facilities feature advanced computing, networking, and storage architectures, as well as enhanced power and cooling systems designed to support the intensive demands of AI workloads (International Business Machines Corporation, 2026). Unlike traditional data centers, AI facilities rely on high-density graphics processing units (GPUs) and other specialized processors that consume incredible amounts of electricity and generate significantly more heat than smaller computer processing facilities (U.S. Congressional Research Service, 2025). Consequently, they require larger energy supplies, more extensive cooling systems, and expanded supporting utility infrastructure to operate efficiently. While AI data centers share many characteristics with traditional data centers, these increased resource demands result in a substantially larger environmental footprint, placing greater strain on local energy grids, water resources, and surrounding ecosystems.

Challenge #1

Water Consumption

The most widely recognized environmental impact of AI-data centers is the immense water consumption required to maintain such facilities. An average-sized data center uses roughly 300,000 gallons of water per day (equivalent to 1,000 households), while larger properties can use up to 5 million gallons of water per day, or about 1.8 billion annually, which mirrors the needs of a town with up to 50,000 residents (Kane, 2025). The water is used to keep servers and other data center equipment cool, and projections show that the needs will only continue to grow over the next decade. Together, the more than 4,000 data centers that exist in the United States consume billions of gallons of water annually (Yañez-Barnuevo, 2025). Yet, reports over the past decade have found that fewer than half of data center operators track water consumption (Jennings, 2025). Water consumption is expected to continue increasing as data centers grow in number, size, and complexity (Yañez-Barnuevo, 2025).

In southeast Florida overall, and Martin County specifically, surface water (e.g., water from lakes, rivers, etc.) is not available in the amounts needed to support AI data centers.

Sub-surface sources of water include the Surficial Aquifer and the Floridan Aquifer. Withdrawals for most needs (e.g., potable water for residences, agriculture, etc.) have historically been from the Surficial Aquifer, however due to water withdrawals, some wells have been contaminated with salt water, and users of large volumes of water (e.g., municipalities, Martin County, etc.) have increasingly need to withdraw water from the saltier Floridan Aquifer, even though the cost to remove impurities to make this water potable is orders of magnitude higher than withdrawing directly from the Surficial Aquifer.

Fortunately, many AI data centers have begun to move towards water-smart strategies. A popular solution is the usage of reclaimed wastewater or 'grey water' for cooling (Stiffler, 2025). This water is usually sourced from sewage outflow and treated to an appropriate level, and after use, the water goes back for retreatment and reuse. Eliminating the need for fresh potable water for AI Center operations lessens the demand on freshwater systems. Effective water management via a circular approach would minimize the need to overly rely on local water sources in Martin County, all of which is within the South Florida Water Resource Caution Area (WRCA) (Florida Department of Environmental Protection Geospatial Open Data, 2014).

A portion of Martin County, however, includes waters of Lake Okeechobee, which, due to decades of hydrologic management, is subject to alternating periods of excess water (which is often discharged to tide via the C-44 (St. Lucie Canal) and the Caloosahatchee River) and periods of low water.

Potential alternatives that could address water consumption needs in Martin County to prevent impacts on existing water resources

- Use of grey water;
- Use of Floridan Aquifer water;
- Use of excess Lake Okeechobee water during those times that it is available, removal of excess nutrients and other contaminants (e.g., PFOS, PFAS, toxic algae, etc.) with return water sent south to rehydrate the Loxahatchee River and/or the Everglades; and
- Develop and implement monitoring protocols to ensure that retrofits will be implemented if monitoring reveals that adverse hydrological impacts are occurring.

Challenge #2

Energy Consumption

Beyond water consumption, AI data centers place substantial strain on energy infrastructure and are projected to put 24 to 44 million metric tons of carbon dioxide into the atmosphere by 2030 (Nutt, 2025). Data centers support a wide range of workloads, making it difficult to determine the exact share of their total electricity demand attributed to AI (Leppert, 2025). A typical AI-focused hyperscale facility consumes as much electricity as 100,000 households annually. The larger ones are expected to use around 20 times as much, according to the International Energy Agency (IEA).

About 60% of the electricity used at AI-data centers is to power the servers that process and store digital information. At AI-optimized hyperscale data centers, advanced servers utilize powerful computer chips that perform trillions of mathematical calculations per second. These chips require more energy than their traditional counterparts, needing two to four times as many watts to run (Leppert, 2025).

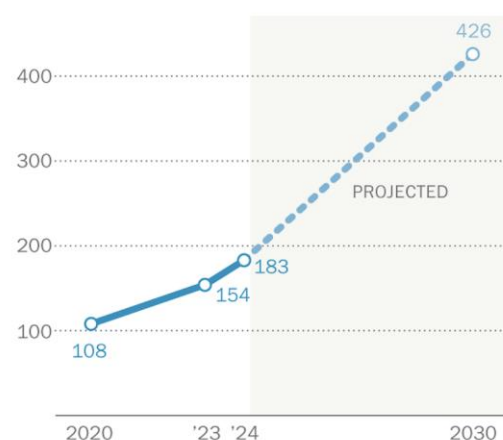
The cooling systems that prevent servers from overheating at AI-data centers are another massive source of energy consumption. The IEA estimates that energy shares for the cooling systems range from 7% at efficient hyperscalers to over 30% at less efficient facilities (International Energy Agency, 2025). By 2030-2035, data centers could account for nearly 20% of global electricity use, putting incredible strain on power grids (Kandemir, 2025).

Potential alternatives that could address energy consumption needs in Martin County to prevent impacts on existing electrical users

- Integration of sources of renewable energy (e.g., solar, geothermal, etc.) to meet energy demands;

Electricity consumption at U.S. data centers is expected to more than double by 2030

Total electricity consumption by U.S. data centers (terawatt-hours)



Note: 2030 projection is based on IEA's "base case" scenario, which assumes current industry forecasts and regulatory conditions persist.
Source: International Energy Agency, "Energy and AI," April 2025.

PEW RESEARCH CENTER

- Development and implementation of rate structures that ensure that the cost for data centers is borne by the users and not existing electricity users;
- Ensure that new data center facilities will not jeopardize the power supply such that existing users are vulnerable to increased outages; and
- Develop and implement monitoring protocols to ensure that retrofits will be implemented if monitoring reveals that adverse impacts are occurring.

Challenge #3

Excessive Carbon Footprint

In 2025, there was a 2.4% rise in greenhouse gas (GHG) emissions in the United States. This alarming increase makes sense following the IEA's 2024 estimate that electricity generation for global data centers could have produced approximately 182 million tons of CO₂ emissions (de Vries-Gao, 2026).

The electricity demands of data centers are one major factor contributing to the environmental impacts of generative AI. Data centers are used to train and run the deep learning models behind popular tools like ChatGPT (Zewe, 2025). While training large AI models requires enormous amounts of computing power, the continual use of these models by millions of users also requires substantial amounts of electricity. As AI becomes more widely adopted, the energy required to run these systems will continue to grow alongside demand.

Yet, the demand for new data centers cannot be met sustainably. The pace at which companies are building new data centers means the bulk of the additional electricity must come from fossil fuel-based power plants (Zewe, 2025). In some regions, utilities are extending the life of existing coal and natural gas plants or planning new fossil fuel generation to meet the growing electricity demands of AI. This creates a long-term dependence on carbon-intensive energy sources that could delay progress toward climate goals.

The environmental impacts of AI extend beyond the electricity used to operate data centers. The construction of new facilities, the production of specialized AI chips and servers, and the extraction of the raw materials needed to manufacture this equipment all generate significant greenhouse gas emissions (Green AI Institute, 2026). As a result, AI's carbon footprint begins long before a model is deployed.

Although AI hardware continues to become more energy efficient, these improvements have been outweighed by the rapid growth in AI use, larger and more powerful models,

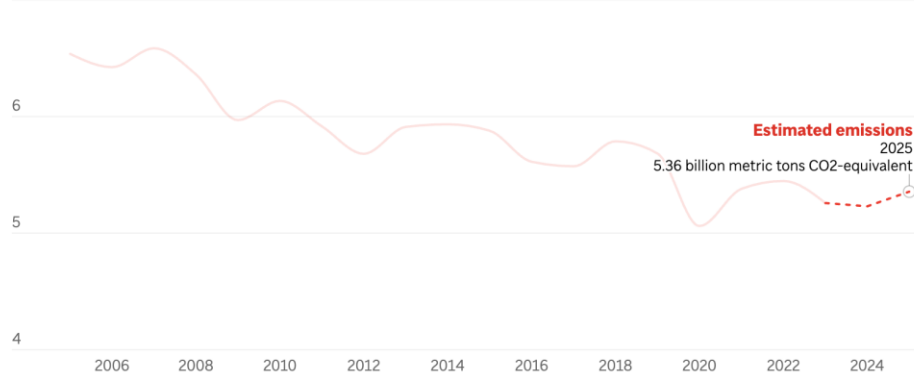
and the increasing number of AI-generated queries (Brooks, 2026). Consequently, overall electricity consumption and carbon emissions are expected to continue to rise despite advances in efficiency. While data centers currently represent only a small share of global electricity consumption, they are among the fastest-growing sources of electricity demand, making their long-term environmental impact an increasing concern (IEA, 2025).

US greenhouse gas emissions increased last year

Experts blamed the colder winter, higher natural gas prices and data centers for the 2.4% rise

— Emissions - - Estimated emissions

7 billion metric tons CO₂-equivalent



Source: Environmental Protection Agency; Rhodium Group / Graphic: Will Jarrett

AP

Potential alternatives that could address data centers' excessive Carbon Footprints

- Develop and implement monitoring protocols to ensure that efforts to mitigate carbon increases are locally based.

Challenge #4

Noise Pollution

As previously established, AI data centers rely on a range of cooling technologies to maintain operational efficiency; however, a notable drawback of non-water-based cooling systems is the persistent humming noise they produce. Diesel generator sounds are reminiscent of jet engines and are increasingly becoming a primary source of power for data centers, and are the standard back-up electrical supply that needs to be instantaneously available when the primary energy service is interrupted (Yañez, 2026). Additionally, mobile gas turbines are used to provide baseload power to data centers behind the meter or to supplement power when centers are forced off the grid during periods of peak demand (Yañez, 2026).

Data center noise varies by facility, time of day, technology use, and proximity to residential areas, but all emit a range of high-frequency and low-frequency sounds (Monserrate, 2022). Reports show that AI data centers can generate noise levels up to 96 decibels. For context, prolonged exposure to sounds above 85 decibels can damage hearing, while noise levels exceeding 65 decibels have been associated with increased stress and elevated blood pressure. Although people are regularly exposed to noise in everyday life, the constant mechanical hum produced by large-scale data centers may pose significant risks to both mental and physical health. The long-term physiological effects of chronic noise pollution are well documented and include hearing loss, insomnia, elevated cortisol levels, and hypertension (Orwig et al., 2018).

Low-frequency noise emitted by data centers can travel up to a mile, affecting nearby residents and wildlife. Like humans, animals exposed to chronic noise pollution may experience elevated stress, weakened immune function, and disrupted circadian rhythms. Noise can also interfere with essential behaviors, such as hunting, predator detection, and navigation, while disrupting species' ability to detect mating calls and reproduce successfully (Aguilar, 2026). Because many animals rely on sound to survive and communicate, prolonged noise pollution may force some species to abandon their native habitats and, ultimately, jeopardize entire ecosystems.

Together, these findings demonstrate that noise pollution from AI data centers extends beyond temporary inconvenience, posing long-term risks to both human health and ecological stability. As facilities continue to expand in size and number, reducing noise emissions will be an important consideration for protecting nearby communities and preserving surrounding ecosystems.

Potential alternatives that could minimize noise pollution

- Ensure that the source(s) of the noise are enclosed within the walls that are designed to minimize external noise;
- Site data center facilities on properties that are large enough to ensure that ambient noise levels are not exceeded at property boundaries; and
- Develop and implement monitoring protocols to ensure that retrofits will be implemented if monitoring reveals that adverse impacts are occurring off-site.

Challenge #5

Light Pollution

Artificial light emitted by data centers contributes to light pollution, particularly in nearby communities and ecosystems. Exposure to artificial light at night (ALAN) disrupts the body's natural circadian rhythms, which regulate essential physiological and behavioral processes (Walker et al., 2020). Research has linked chronic exposure to nighttime artificial light with an increased risk of cancer, metabolic disorders, and mood disorders by interfering with the molecular mechanisms that govern the body's internal clock (Walker et al., 2020). These findings suggest that persistent light pollution, much like chronic noise pollution, may have important long-term consequences for both human health and environmental well-being.

Light pollution also has profound effects on wildlife, disrupting migration patterns, sleep-wake cycles, and habitat use (Cobb, 2025). Many species rely on natural light to navigate, forage, and reproduce, making them particularly vulnerable to artificial light sources. For example, sea turtles and migratory birds that use moonlight for navigation can become disoriented by artificial lighting, often leading to injury or death (Cobb, 2025). Insects, which serve as a primary food source for many bird species, are similarly drawn to artificial lights, where they frequently die from contact with lighting infrastructure. These cascading ecological effects can disrupt food webs and contribute to broader declines in biodiversity.

Collectively, these effects illustrate that light pollution from data centers is more than a visual nuisance. It is an environmental stressor that can have lasting consequences for biodiversity and human health.

Potential alternatives that could minimize light pollution

- Ensure that lighting arrays are designed, engineered, installed, mounted, and maintained in a manner that avoids or minimizes light pollution outside property boundaries;
- Site data center facilities on properties that are large enough to ensure that light pollution and sky glow are retained on site and/or are contained sufficiently that off-site adverse impacts are negligible; and
- Develop and implement monitoring protocols to ensure that retrofits will be implemented if monitoring reveals that adverse light pollution impacts are occurring off-site.

Challenge #6

Air Pollution

Data centers contribute to air pollution by emitting significant quantities of nitrogen oxides, methane, fine particulate matter, and volatile organic compounds (Pavlinich, 2026). Exposure to these pollutants has been linked to increased rates of respiratory illness, premature mortality, cardiovascular disease, and elevated cancer risk among nearby populations (Tao & Gao, 2025). Recent studies project that by 2030, emissions from U.S. data centers could contribute to approximately 600,000 asthma symptom cases annually—and impose a public health burden exceeding \$20 billion (Han et al., 2026).

The environmental footprint of AI data centers extends beyond emissions generated at the facilities to the materials required to build and power them. The rapid expansion of data centers is creating substantial demand for minerals and materials (Amoah et al., 2026). Aluminum is an important material in electrical and power infrastructure, including cables and other components used to connect data centers to electricity supplies. Primary aluminum production is a primary source of perfluorocarbons (PFCs), which are GHGs released following the smelting process (EPA, 2026). Like other pollutants caused by data centers, these pose significant health threats (Martin & Larivière, 2014).

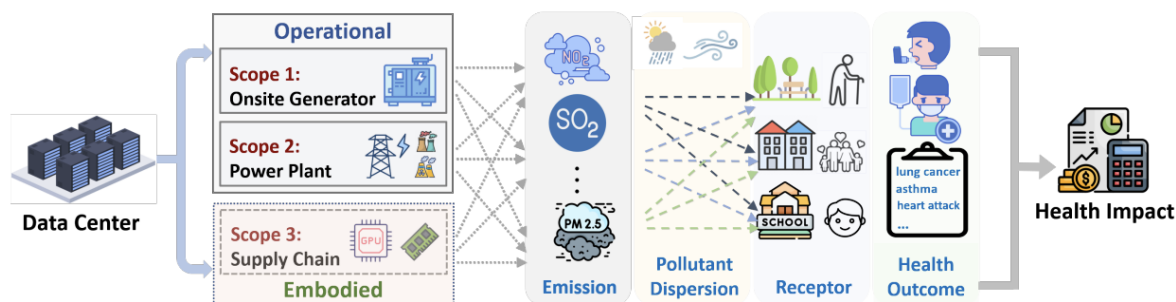


Figure 1: The overview of data centers' contribution to air pollutants and public health impacts. Scope-1 and scope-2 impacts occur during the operation of data centers ("operational"), whereas scope-3 impacts arise from activities across the supply chain ("embodied").

Beyond their effects on human health, these emissions also have significant consequences for surrounding ecosystems. Air pollutants released from data centers can affect plants, animals, soil, and water through several interconnected pathways. One important environmental consequence of nitrogen oxide emissions is acid rain. Acid rain is a broad term that includes any form of precipitation containing acidic components, such as sulfuric or nitric acid, which fall to the ground in wet or dry forms

(EPA, 2026). This phenomenon occurs when sulfur dioxide and nitrogen oxides are released into the atmosphere and transported by wind and air currents. When these pollutants react with water, oxygen, and other chemicals in the atmosphere, they form sulfuric and nitric acids that are deposited through precipitation (EPA, 2026). While acid rain can result from natural sources, it is primarily caused by the burning of fossil fuels.

Aquatic environments, including streams, lakes, marshes, and coastal waters, are particularly vulnerable to these pollutants. Acid rain damages lakes and streams, harming fish and other aquatic wildlife (EPA, 2026). As acidic rainwater moves through soil, it releases toxic aluminum that is then carried into nearby bodies of water. As acidity increases, more aluminum is released into aquatic ecosystems. While some plants and animals can tolerate acidic waters and moderate levels of aluminum, many species are far less resilient.

Nitrogen oxides emitted into the atmosphere also contribute excess nitrogen to soils and surface waters. This additional nitrogen, together with nutrients such as phosphorus, causes algae to grow more rapidly than ecosystems can sustain. Excessive algal growth reduces water quality, damages habitats and food sources, and lowers dissolved oxygen levels that fish and other aquatic organisms need to survive (EPA, 2026).

Plants are particularly vulnerable to ground-level air pollution, also known as ozone. When ozone enters the leaves of sensitive plants, it disrupts photosynthesis, the process plants use to produce the energy needed for growth and repair (EPA, 2026). As a result, plants may grow more slowly, become more susceptible to diseases and insect damage, and experience reduced root function. Over time, these effects weaken overall plant health and can lead to sensitive species being replaced by those that are more tolerant of ozone pollution. Such shifts in plant communities can alter habitat quality as well as nutrient and water cycles within ecosystems. These impacts are especially significant during the growing season, when plants are actively undergoing photosynthesis (EPA, 2026).

In Martin County, where over 11,000 species of plants, including over 45 plant species that are designated as Endangered or Threatened, cumulative impacts from multiple data centers could pose risks far outside the boundaries of an individual data center's property (Wunderlin et al., n.d.).

Together, these effects demonstrate that air pollution from data centers extends beyond human health, contributing to the long-term degradation of aquatic and terrestrial ecosystems.

Potential alternatives that could minimize air pollution

- Ensure that air pollution control technology is engineered into all facilities such that emanations from data center facilities do not have adverse air quality impacts outside the boundary of the facility;
- Site data center facilities on properties that are large enough to ensure that air pollution control technology is integrated into the facility; and
- Develop and implement monitoring protocols to ensure that retrofits will be implemented if air monitoring reveals that adverse impacts are occurring off-site.

Challenge #7

Heat Pollution

AI data centers have been described as “heat islands” due to the localized microclimates created when waste heat from cooling systems and high-density servers warms the surrounding air and land (Paddison, 2026). Recent research has indicated that these facilities increase local land surface temperatures by an average of 3.6°F, with spikes of up to 16°F in extreme cases, and can affect areas more than six miles away from the source (Ali & Duggal, 2026). As a result, these temperature increases could potentially influence the microclimates experienced by more than 340 million people worldwide (Paddison, 2026). However, some independent researchers argue that the observed rise in land surface temperatures is primarily attributable to the energy-intensive process of constructing large buildings on previously undeveloped land, rather than to heat generated by data center operations themselves (Rogelberg, 2026).

While there are differing perspectives on the primary source of heat associated with AI data centers, there is consensus regarding the environmental and public health risks posed by rising temperatures. Although heat waves are a natural phenomenon, fossil fuel–driven climate change has increased their frequency, intensity, and duration beyond levels observed during the 20th century (Ordóñez-Lancet et al., 2025). Heat stress is one of the leading causes of weather-related mortality and can worsen underlying conditions such as cardiovascular disease, diabetes, mental health disorders, and asthma (WHO, 2026). It can also increase the risk of accidents and facilitate the transmission of certain infectious diseases. As climate change has intensified exposure to extreme heat, heat-

related mortality among adults over the age of 65 increased by approximately 85% between 2000–2004 and 2017–2021 (WHO, 2026).

The impacts of extreme heat extend beyond human health, disrupting ecosystems and altering the delicate relationships between wildlife and their environments. As temperatures rise, many plant species adapt by blooming and ripening earlier or shifting to cooler locations (NPS, 2021). While these changes can help plants conserve water during periods of heat stress, they often produce smaller fruits that mature and drop earlier than usual (Morrow, 2026). Although this adaptation improves plant survival, it can reduce the availability of food later in the season, leaving wildlife with fewer resources during autumn, when many species rely on abundant food supplies to build energy reserves for winter (Morrow, 2026). These floral impacts may be more pronounced when data centers are located in areas that are mostly agricultural in land use.

Extreme heat also compounds existing pressures on animal populations. Heatwaves damage the vegetation that insects depend on for food and can kill vulnerable life stages, such as caterpillars, further contributing to widespread insect declines (NPS, 2021). Pollinators, including bumblebees, are especially susceptible because their dense body hair causes them to overheat quickly, limiting their ability to forage. Although bumblebees store food within their nests, these reserves typically last only a few days, making prolonged heatwaves particularly challenging. Drought conditions also affect mammals by hardening soils, making it difficult to access insects, worms, and other underground food sources (Morrow, 2026). As streams and other water sources dry up, dehydration and malnutrition become increasingly likely, especially for young mammals that depend on consistent access to food and water.

As climate change continues to reshape ecosystems, some species may struggle to adapt to shifting food availability and habitat conditions. Pollinators, for example, must synchronize their life cycles with flowers that are blooming earlier in the year, while other animals may find that their habitats no longer provide the resources needed to support their biological requirements (Walters, 2024). Although some species may benefit from warmer conditions and expand their ranges, these shifts can intensify competition and create opportunities for invasive species to establish and spread (NPS, 2021). As native species lose the environmental advantages that once supported their survival, ecosystem stability and biodiversity may become increasingly vulnerable.

Potential alternatives that could minimize heat pollution

- Ensure that heat pollution control technology is engineered into all facilities such that emanations from data center facilities do not have adverse thermal impacts outside the boundary of the facility;

- Site data center facilities on properties that are large enough to ensure that heat pollution control technology is integrated into the facility; and
- Develop and implement monitoring protocols to ensure that retrofits will be implemented if thermal effect monitoring reveals that adverse impacts are occurring off-site.

Challenge #8

Ecological Impact

While potential adverse ecological impacts have been mentioned in each of the previously identified major thematic areas, it is pertinent to recognize that the existing Comprehensive Growth Management Plans (CGMPs) and Land Development Regulations (LDRs) in Martin County and the municipalities within Martin County, protect wetlands and floral and faunal species that are designated by the State and/or federal government as Endangered and Threatened (Martin County, 2025).

These protections, which have been in place for decades, have ensured that development can proceed as long as these resources are protected.

Throughout most of Florida, where nearly 1/3 of the state was historically wetland, protection of these resources has become increasingly challenging as the state's population has increased to more than 23 million (Martin County, 2026).

In other areas, where wetland protection standards are less rigorous, wetlands have been lost to commercial, industrial, and residential development and agriculture. Wetland losses and development in Florida have resulted in lowered water tables, resulting in higher costs when wells that serve private residences have been compromised by saltwater intrusion and when counties and municipalities are forced to transition from the surficial aquifer to the Floridan aquifer, where water must undergo intensive filtering to make it potable (Martin County, 2026).

While there is often flexibility in site planning to avoid wetlands and protected species for residential and small-scale commercial and industrial projects, options to protect these resources dwindle depending on the scale of the project.

With data center facilities often reaching sizes in excess of 1M ft², compliance with existing wetland and protected species regulations will be challenging for projects that are proposed in Martin County and within the municipalities that include these same protections.

Potential alternatives that could avoid or minimize impacts on wetlands and protected species:

- Ensure that wetland delineations and protected species surveys are completed on sites that are being considered for the development of data centers;
- Plan data center facilities to avoid wetlands and surface water areas and ensure that facility construction and operation will not adversely affect these resources;
- Perform modeling to determine the extent to which impacts (e.g., water, usage, heat, noise, light, etc.) will affect on-site and off-site wetland and protected species resources;
- Site data center facilities on properties that are large enough to ensure that adverse impacts are limited to within the facility's boundary;
- Mitigate ecological impacts as close to the location of impact as feasible, and
- Develop and implement monitoring protocols to ensure that retrofits will be implemented if monitoring reveals that adverse impacts are occurring off-site.

Challenge #9

Community Opposition

AI data centers presently lack strong, consistent, and enforceable safeguards, often putting communities at risk. While data centers have existed in some form since the 1950s, the recent growth of artificial intelligence (AI) has accelerated development and increased public awareness of their impacts (Slattery, 2026). The United States now leads the world in new methane gas power plant capacity under development, surpassing China (Martos, 2026). More than one-third of this capacity is projected to directly power data centers onsite (Martos, 2026).

AI data centers also operate with limited transparency, leaving communities without critical information about emissions, energy consumption, and impacts on local water infrastructure (Slattery, 2026). Recent polling shows that seven in ten Americans oppose AI data centers in their local communities (Jones, 2026). Across the country, residents are increasingly voicing their concerns, attempting to delay or stop proposed developments and advocating for proactive policies that protect local populations.

Seven in 10 Americans Oppose Local Construction of AI Data Centers

Overall, would you strongly favor, somewhat favor, somewhat oppose or strongly oppose the construction of a data center in your area to support artificial intelligence, or AI, technology in the U.S.?

■ % Strongly favor ■ % Somewhat favor ■ % Somewhat oppose ■ % Strongly oppose



March 2-18, 2026
"No opinion" percentage not shown

GALLUP

Florida communities are similarly pushing back against the expansion of AI data centers. While hyperscale data centers are not exclusively focused on AI, the technology is a primary driver of their rapid expansion. In July 2026, Palm Beach County commissioners voted 5–1 to deny Project Tango’s proposal to develop a hyperscale data center (Aguirre, 2026). However, the decision does not necessarily prevent the developers from proceeding with a smaller-scale version of the project. The Project Tango developers received county approval in 2016 for a 2-million-square-foot data center and warehouse (Perik, 2026). More recently, they sought additional approvals to expand the development into a hyperscale data center, which the county ultimately denied. As a result, concerns remain that the developers could move forward with the previously approved, smaller-scale data center rather than abandoning the project altogether.

Further north along the Treasure Coast, Indian River County and Vero Beach have placed a moratorium on data centers based on local interpretations of land-use regulations (Ferrer & Randall, 2026). Meanwhile, Martin and St. Lucie counties remain open to development. In October 2025, Sentinel Grove, the largest proposed hyperscale data center in Florida, was proposed in St. Lucie County (Randall, 2025). The \$13.5 billion facility was planned to support AI model training, data storage, and advanced computing (Ferrer & Randall, 2026). However, following strong opposition from rural landowners, the proposal was withdrawn indefinitely.

Indiantown has also faced several hyperscale data center proposals. Earlier this year, Silver Fox 606 withdrew its proposal for a 2-million-square-foot data center, but residents remain concerned about future development (Garcia, 2026). Hyperscale digital infrastructure development remains active in the area. However, the Village Council approved a 5,722-acre rezoning along Kanner Highway submitted by Florida Power &

Light that permits data-processing uses (Garcia, 2026). As data centers continue to be proposed across the region, from Palm Beach County to Okeechobee and the Treasure Coast, residents remain cautious about the potential impacts of this rapidly expanding industry.

As data centers continue to be proposed across Palm Beach County, Okeechobee, and the Treasure Coast, residents remain cautious. While communities have successfully challenged some projects through opposition, moratoriums, and rejected proposals, development pressures continue. Without stronger and more consistent safeguards, local governments must balance the growing demand for AI infrastructure with the potential environmental, health, and quality-of-life impacts on surrounding communities.

Potential actions that could avoid, minimize, or address Community Opposition:

- Ensure that complete and factual information about proposed data centers is available to residents within the communities where the facility is proposed;
- Plan data center facilities to minimize impacts on people and environmentally sensitive areas;
- Perform modeling to determine the extent to which impacts (e.g., water, usage, heat, noise, light, etc.) will affect on-site and off-site people and environmental and cultural resources;
- Site data center facilities on properties that are large enough to ensure that adverse impacts are limited to within the facility's boundary;
- Develop options to mitigate impacts on people; and
- Develop and implement monitoring protocols to ensure that retrofits will be implemented if monitoring reveals that adverse human impacts are occurring off-site.

Current Florida Legislation:

Florida has recently taken steps to regulate the rapid expansion of hyperscale data centers. In 2026, the state enacted its first major legislation specifically addressing large-scale data centers through CS/CS/SB 484 (Florida Senate, 2026). The law preserves local governments' authority to regulate the siting of large electricity users, including data centers, through comprehensive plans and land-development regulations (Williams, 2026). It also requires the Florida Public Service Commission to establish electricity tariffs and service requirements for large-load customers to ensure that the costs associated with their energy use are not shifted to other utility customers (Florida Senate, 2026)

The legislation also addresses some of the environmental concerns surrounding hyperscale development, particularly water consumption. It establishes a separate

consumptive-use permitting process for large-scale data centers and allows water management districts and the Florida Department of Environmental Protection to require the use of reclaimed water. Additionally, the law requires an independent study examining the economic, environmental, energy, water, and public-health impacts of large-scale data centers, including recommendations for future siting and mitigation policies (Florida Senate, 2026). However, efforts to increase transparency have faced greater resistance. HB 1517, which would have required data center applicants and existing facilities to disclose information about their operations and required the state to make that information publicly available, died in committee in March 2026 (Florida Senate, 2026). While Florida has begun establishing safeguards for the growing data center industry, the continued absence of comprehensive transparency requirements leaves communities with limited information about the potential impacts of these developments.

Conclusion:

These impacts extend beyond the boundaries of individual facilities, placing pressure on local resources, ecosystems, public health, and the quality of life of surrounding communities. As Florida and other states continue to accommodate the growing demand for AI infrastructure, economic benefits must be considered alongside the long-term environmental and social costs of development.

The Guardians of Martin County does not oppose AI data centers or technological advancement, but believes development must be accompanied by meaningful safeguards, transparency, accountability, and responsible resource management.

Florida's recent efforts to regulate large-scale data centers represent an important step toward addressing concerns related to water use, energy costs, and local land-use authority, but additional protections and greater transparency remain necessary. Data center developers and policymakers should prioritize reclaimed water, energy efficiency, siting facilities on properties that are large enough to retain most impacts within their property boundaries, emissions reductions, noise, heat, and light mitigation, environmental monitoring, and meaningful community engagement.

Ultimately, the goal should not be to prevent innovation, but to ensure that it does not come at the expense of the natural resources, ecosystems, and communities that sustain Florida. Sustainable AI development will require a deliberate balance between technological progress and the responsibility to protect the environment and quality of life for future generations.

References

- Aguilar, R. (2026, June 25). *Nashville Zoo vs. a Data Center: 5 Ways Wildlife Loses*. A-Z Animals. Retrieved August 1, 2026, from <https://a-z-animals.com/articles/nashville-zoo-vs-a-data-center-5-ways-wildlife-loses/#h-a-constant-hum-drowns-out-animal-calls>
- Aguirre, L. (2026, July 15). *Project Tango fuels debate over Florida's first hyper scale AI data center*. Local 10. Retrieved August 8, 2026, from <https://www.local10.com/news/local/2026/07/15/project-tango-fuels-debate-over-floridas-first-hyperscale-ai-data-center/>
- Ali, M., & Duggal, H. (2026, June 11). *How much heat does an AI data centre produce, and where are they located?* Al Jazeera. Retrieved August 1, 2026, from <https://www.aljazeera.com/news/2026/6/11/how-much-heat-does-an-ai-data-centre-produce-and-where-are-they-located>
- Amoah, M., Brown, M., Simon, A., Bazilian, M., & Matissek, J. (2026, June 13). *Mineral demand from AI data centers: Infrastructure intensity, processing bottlenecks, and supply competition*. ScienceDirect.com. Retrieved September 21, 2026, from https://www.sciencedirect.com/science/article/abs/pii/S030142072600142X?utm_source=chatgpt.com
- Brooks, C. (2026, March 14). *The Rapid Trajectory of Artificial Intelligence*. Forbes. Retrieved July 13, 2026, from <https://www.forbes.com/sites/chuckbrooks/2026/03/14/the-rapid-trajectory-of-artificial-intelligence/>
- Cisco. (2026). *What is an AI Data Center?* Cisco. <https://www.cisco.com/site/us/en/learn/topics/computing/what-is-an-ai-data-center.html>
- Cobb, J. (2025, April). *Light Pollution*. Education | National Geographic Society. Retrieved August 10, 2026, from <https://education.nationalgeographic.org/resource/light-pollution/>
- de Vries-Gao, A. (2026, January 9). The carbon and water footprints of data centers and what this could mean for artificial intelligence. *Patterns*, 7(1), 10. <https://www.sciencedirect.com/science/article/pii/S2666389925002788>
- EPA. (2026, February 13). *What is Acid Rain?* EPA. Retrieved July 25, 2026, from <https://www.epa.gov/acidrain/what-acid-rain>
- EPA. (2026, February 26). *Aluminum Industry | US EPA*. EPA. Retrieved September 21, 2026, from <https://www.epa.gov/eps-partnership/aluminum-industry>
- EPA. (2026, May 1). *Air, Animals, and Plants | US EPA*. EPA. Retrieved August 1, 2026, from <https://www.epa.gov/air-quality/air-animals-and-plants>

FAO. (2026). *Extreme heat and agriculture*. Food and Agriculture Organization of the United Nations. Retrieved August 1, 2026, from <https://openknowledge.fao.org/items/f635e477-b37a-46f8-bc10-34d56cec6332>

Ferrer, A., & Randall, J. (2026, August 4). *Data centers are prohibited in these Florida cities, counties*. Yahoo. Retrieved August 9, 2026, from <https://www.yahoo.com/news/us/articles/data-centers-prohibited-florida-cities-090924293.html>

Florida Department of Environmental Protection Geospatial Open Data. (2014, July 2). *Florida Water Resource Caution Areas (WRCA)*. Florida Department of Environmental Protection Geospatial Open Data. Retrieved September, 2026, from <https://geodata.dep.state.fl.us/datasets/florida-water-resource-caution-areas-wrca>

Florida Senate. (2026, May 8). *Senate Bill 484 (2026) - The Florida Senate*. Florida Senate. Retrieved August 11, 2026, from <https://www.flsenate.gov/Session/Bill/2026/484>

Garcia, C. (2026, April 29). *Indiantown proposed data center plans scrapped as village sets record straight on undeveloped land*. WPTV. Retrieved August 11, 2026, from <https://www.wptv.com/news/region-martin-county/indiantown/indiantown-data-center-plans-scrapped-as-village-sets-record-straight-on-undeveloped-land>

Green AI Institute. (2026, July 13). *White Paper on Global Artificial Intelligence Environmental Impact*. Green AI Institute. Retrieved July 13, 2026, from <https://www.greenai.institute/whitepaper/white-paper-on-global-artificial-intelligence-environmental-impact>

Han, Y., Wu, Z., Li, P., Wierman, A., & Ren, S. (2026, June 8). *Health-Informed Computing: Estimating and Addressing the Public Health Impact of Data Centers*. Retrieved July 30, 2026, from <https://arxiv.org/pdf/2412.06288>

IEA. (2025, April 10). *AI is set to drive surging electricity demand from data centres while offering the potential to transform how the energy sector works - News*. IEA. Retrieved July 13, 2026, from <https://www.iea.org/news/ai-is-set-to-drive-surging-electricity-demand-from-data-centres-while-offering-the-potential-to-transform-how-the-energy-sector-works>

International Business Machines Corporation. (2026). *What is an AI data center?* IBM. <https://www.ibm.com/think/topics/ai-data-center>

International Energy Agency. (2025, April 10). *Energy and AI – Analysis*. IEA. Retrieved July 12, 2026, from <https://www.iea.org/reports/energy-and-ai>

Jennings, C. (2025, July 23). *The Cloud is Drying our Rivers: Water Usage of AI Data Centers*. EthicalGEO. Retrieved July 11, 2026, from <https://ethicalgeo.org/the-cloud-is-drying-our-rivers-water-usage-of-ai-data-centers/>

Jones, J. M. (2026, May 13). *Americans Oppose AI Data Centers in Their Area*. Gallup News. Retrieved August 10, 2026, from <https://news.gallup.com/poll/709772/americans-oppose-data-centers-area.aspx>

Kandemir, M. (2025, April 8). *AI's Energy Demand: Challenges and Solutions for a Sustainable Future*. Institute of Energy and the Environment. Retrieved July 12, 2026, from <https://iee.psu.edu/news/blog/why-ai-uses-so-much-energy-and-what-we-can-do-about-it>

Kane, J. W. (2025). *Commentary AI, data centers, and water*. Brookings. <https://www.brookings.edu/articles/ai-data-centers-and-water/>

Leppert, R. (2025, October 24). *What we know about energy use at U.S. data centers amid the AI boom*. Pew Research Center. Retrieved July 12, 2026, from <https://www.pewresearch.org/short-reads/2025/10/24/what-we-know-about-energy-use-at-us-data-centers-amid-the-ai-boom/#how-many-data-centers-are-in-the-u-s-and-where-are-they>

Martin, S. C., & Larivière, C. (2014, May 8). *Community Health Risk Assessment of Primary Aluminum Smelter Emissions*. PMC. <https://pmc.ncbi.nlm.nih.gov/articles/PMC4131939/>

Martin County. (2025, March 25). *Comprehensive Plan | Martin County, FL | Municode Library*. Municode Library. Retrieved September 23, 2026, from https://library.municode.com/fl/martin_county/codes/comprehensive_plan?nodeId=COGRMAPL_CH9COOPSPEL

Martin County. (2026, January 30). *Land Development Regulations | Martin County, FL | Municode Library*. Municode Library. Retrieved September 23, 2026, from https://library.municode.com/fl/martin_county/codes/land_development_regulations?nodeId=LADERE_ART4SIDEST_DIV1WESHPR

Martos, J. (2026, January 1). *Betting big on data centers, U.S. now leads world for new gas power development*. Global Energy Monitor. Retrieved August 9, 2026, from <https://globalenergymonitor.org/research/betting-big-data-centers-us-now-leads-world-new-gas-power-development>

Monserate, S. G. (2022, February 14). *The Staggering Ecological Impacts of Computation and the Cloud*. The MIT Press Reader. Retrieved August 1, 2026, from <https://thereader.mitpress.mit.edu/the-staggering-ecological-impacts-of-computation-and-the-cloud/>

Morrow, R. (2026, July 23). *How do heatwaves affect wildlife?* Woodland Trust. Retrieved August 1, 2026, from <https://www.woodlandtrust.org.uk/blog/2026/07/how-heatwaves-affect-wildlife/>

NPS. (2021, December 8). *Wildlife and Climate Change* (U.S. National Park Service. Retrieved August 1, 2026, from <https://www.nps.gov/articles/000/wildlife-climateimpact.htm>

Nutt, D. (2025, November 10). *'Roadmap' shows the environmental impact of AI data center boom*. Cornell Chronicle. <https://news.cornell.edu/stories/2025/11/roadmap-shows-environmental-impact-ai-data-center-boom>

Ordóñez-Lancet, J., Smith, J., & Kelly, C. (2025, July 31). *Climate Change Is Subjecting More Americans to Unbearable Extreme Heat*. Center for American Progress. Retrieved August 1, 2026, from <https://www.americanprogress.org/article/climate-change-is-subjecting-more-americans-to-unbearable-extreme-heat/>

Orwig, J., Anderson, D., & Lee, N. (2018, January 26). *Noise pollution affects human hearing, health, and quality of life* [Video]. Business Insider.

Paddison, L. (2026, March 30). *Data centers are creating 'heat islands' and warming the land around them by up to 16 degrees*. CNN. Retrieved August 1, 2026, from <https://www.cnn.com/2026/03/30/climate/data-centers-are-having-an-underreported>

Pavlinich, E. J. (2026, February 27). *The Dangers of Data Centers*. Environmental Health Project. Retrieved July 28, 2026, from <https://www.environmentalhealthproject.org/post/the-dangers-of-data-centers>

Perik, J. (2026, July 16). *What's next? The future of Project Tango after county vote*. WPBF. Retrieved August 9, 2026, from <https://www.wpbf.com/article/whats-next-future-project-tango-palm-beach-county/72742979>

Randall, J. (2025, October 23). *Massive data center, one of the world's largest, proposed in rural Treasure Coast*. TCPALM. Retrieved August 9, 2026, from <https://www.tcpalm.com/story/news/local/st-lucie-county/2025/10/23/13-billion-data-center-largest-in-florida-planned-on-treasure-coast/86770609007/?gnt-cfr=1&gca-cat=p&gca-uir=true&gca-epti=z113301p002250c002250e112080v113301d--43--b--43--&gca-ft=188&gca-d>

Rogelberg, S. (2026, April 1). *Data centers may be forming 'heat islands,' with raised temperatures in a 6-mile radius*. Fortune. Retrieved August 1, 2026, from <https://fortune.com/2026/04/01/ai-data-centers-heat-island-hyperscalers/>

Slattery, M. (2026, August 3). *Policymakers are Playing Catch-Up with the AI Data Centers Race*. Earthjustice. Retrieved August 9, 2026, from <https://earthjustice.org/experts/meg-slattery/policymakers-are-playing-catch-up-with-the-ai-data-centers-race>

Stiffler, L. (2025, June 9). *Amazon increasingly turns to wastewater to cool its cloud*. GeekWire. Retrieved July 11, 2026, from <https://www.geekwire.com/2025/as-data-center-demand-soars-amazon-expands-use-of-wastewater-to-cool-its-cloud/>

Tao, Y., & Gao, P. (2025, September). *Global data center expansion and human health: A call for empirical research*. ScienceDirect.com. Retrieved July 21, 2026, from <https://www.sciencedirect.com/science/article/pii/S2772985025000262>

U.S. Congressional Research Service. (2025, February 5). *Data Centers and Cloud Computing: Information Technology Infrastructure for Artificial Intelligence*. congress.gov. <https://www.congress.gov/crs-product/IF12899>

Walker, W. H., Bumgarner, J. R., Walton, J. C., Liu, J. A., Meléndez-Fernández, O. H., Nelson, R. J., & DeVries, A. C. (2020, December 8). *Light Pollution and Cancer*. National Library of Medicine. Retrieved July 30, 2026, from <https://pmc.ncbi.nlm.nih.gov/articles/PMC7764771/>

Walters, J. (2024, August 7). *Extreme heat harms native pollinator reproduction and survival*. Michigan State University. <https://eeb.msu.edu/news/extreme-heat-harms-native-pollinator-reproduction-and-survival.aspx>

WHO. (2026, July 31). *Heat and health*. World Health Organization (WHO). Retrieved August 2, 2026, from <https://www.who.int/news-room/fact-sheets/detail/climate-change-heat-and-health>

Williams, K. (2026, May 8). *DeSantis signs bill aimed at regulating Florida data centers*. E&E News. Retrieved August 10, 2026, from <https://www.eenews.net/articles/desantis-signs-bill-aimed-at-regulating-florida-data-centers/>

Wunderlin, R. P., Hansen, B. F., Franck, A. R., & Essig, F. B. (n.d.). *Plant Atlas*. Plant Atlas. Retrieved September 23, 2026, from <https://florida.plantatlas.usf.edu/about>

Yale School of the Environment. (2026, July 10). *Data Centers, Urban Heat, and AI Growth*. Yale. Retrieved August 1, 2026, from <https://environment.yale.edu/news/article/data-centers-urban-heat-and-ai-growth>

Yañez, M. (2026, March 23). *Communities Are Raising Noise Pollution Concerns About Data Centers | Article | EESI*. Environmental and Energy Study Institute. Retrieved August 1, 2026, from <https://www.eesi.org/articles/view/communities-are-raising-noise-pollution-concernsabout-data-centers>

Yañez-Barnuevo, M. (2025, April 15). *Data Center Energy Needs Could Upend Power Grids and Threaten the Climate* | Article | EESI. Environmental and Energy Study Institute. Retrieved July 12, 2026, from <https://www.eesi.org/articles/view/data-center-energy-needs-are-upending-power-grids-and-threatening-the-climate>

Yañez-Barnuevo, M. (2025, June 25). *Data Centers and Water Consumption* | Article | EESI. Environmental and Energy Study Institute. Retrieved July 11, 2026, from <https://www.eesi.org/articles/view/data-centers-and-water-consumption>

Zewe, A. (2025, January 17). *Explained: Generative AI's environmental impact*. MIT News. Retrieved July 13, 2026, from <https://news.mit.edu/2025/explained-generative-ai-environmental-impact-0117>